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ABSTRACT OF THE DISCLOSURE

An automatic focusing mechanism for mounting on a measuring device has a telescope for sighting a leveling rod with pattern marks marked thereon at an equal pitch between each mark, and a photoelectric device for converting an image sighted by the telescope into an electric signal to thereby automatically adjust a focus on the leveling rod. The mechanism is made up of: a stepping motor for moving a focusing lens of the telescope from one end toward an opposite end of a movable range of the focusing lens; a microcomputer for obtaining the pitch of the pattern marks of the leveling rod at that position on the photoelectric device which is capable of obtaining the pitch in a state before the focusing lens is focused on the leveling rod to obtain a distance to the leveling rod based on the pitch obtained by the microcomputer; and fine adjusting mechanism for moving the focusing lens to a position corresponding to the distance.